DELIVERABLE I

RECYCLING INDUSTRY PANORAMA TO 2028

EUROPEAN MAPPING OF TEXTILE RECYCLING STAKEHOLDERS - FIRST VERSION

Working group: Future sorting processes

Last update - June 2025 English version







B.A.L.I. CHAIR

The BALI (Biarritz Active Lifestyle Industry) Chair is a teaching and research program on technological innovations applied to textiles to enable concrete circularity. The Chair's work is based on 3 areas of reflection:

- Circular fashion Reinventing material and garment manufacturing models to meet the new regulatory constraints of the law against waste and for the circular economy.
- Agile, reasoned and close-knit fashion Produce differently, on demand, locally and automatically, to develop Made in France.
- Transparent fashion Controlling the textile supply chain from A to Z to better inform an informed and committed consumer.

















To carry out its work, the members of the Chair have committed themselves through theses and extended working groups. Roxane Couffitte, a research engineer at the Chair, and Marilou Hargoues, a textile engineer at CETIA, are working on the TLC recycling chain.

PLANNING 2025

july 2025 oct 2025

European mapping of textile recycling stakeholders by 2028

• identification of players, characterization of material flows, technologies, boundaries, structure, territory



Economical study of 2 EU Recycling ecosystems



• Comparative analysis of an EU scenario Choice of a relevant territory



Interviews with actors/industry professionals

upstream/downstream flows • for collectors-sorters and recyclers

Recommendations/guidelines for action to secure



conclusion of previous deliverables brakes, constraints, challenges, opportunities (swot)

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- O2. <u>Mapping of European pre-processers actors by 2030</u>

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- O3. Mapping of European collecter-sorter & preprocessor actors by 2030
- Mapping of European chemical recyclers actors by 2030
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GLOSSARY

Automated sorting: The use of machines and technology to identify, classify, and separate different types of textiles (cotton, polyester, wool) in an automated way, typically in the context of textile recycling, waste management, or second-hand clothing sorting.

Chemical recycling: Processes that break down textile waste into its basic chemical building blocks (monomers or oligomers) or into other valuable chemicals. These building blocks can then be used to create new virgin-quality materials, including new textiles

Closed-loop recycling (Textile-to-textile ; F2F): Any recycling operation enabling the reuse of recycled fibres from textile waste in the production of new textile.

Defibering: Defibering is the process of removing fiber from a material.

De-trimming: Process of dismantling garments to remove hard points (buttons, rivets, zips, patches, etc..).

Fraying/shredding: Process of fraying or thinning the edges of a fabric, often for aesthetic purposes or to create softer.

Mechanical recycling: Processes that convert textile waste into new materials without significantly altering the chemical structure of the fibers. These processes typically involve sorting, shredding, and processing the textile waste into fibers that can then be spun into new yarns or used in non-woven applications.

Open-loop recycling: Any recycling operation enabling the reuse of recycled fibres from textile waste in the production of new products, other than textile.

Preprocessing: Any operation that prepares a material for recycling, including delissage, defibration, chipping, etc.

DISCLAIMER

The purpose of this deliverable is to present a non-exhaustive mapping of the major players in the European Recycling sector.

These results are essentially based on bibliographical research, website and declarative company data or press release.

As a result, there may be uncertainties regarding players, capacity or equipment.

If you feel that any players or information is missing, please do not hesitate to write to us or fill in <u>the form</u> at the end of this document.

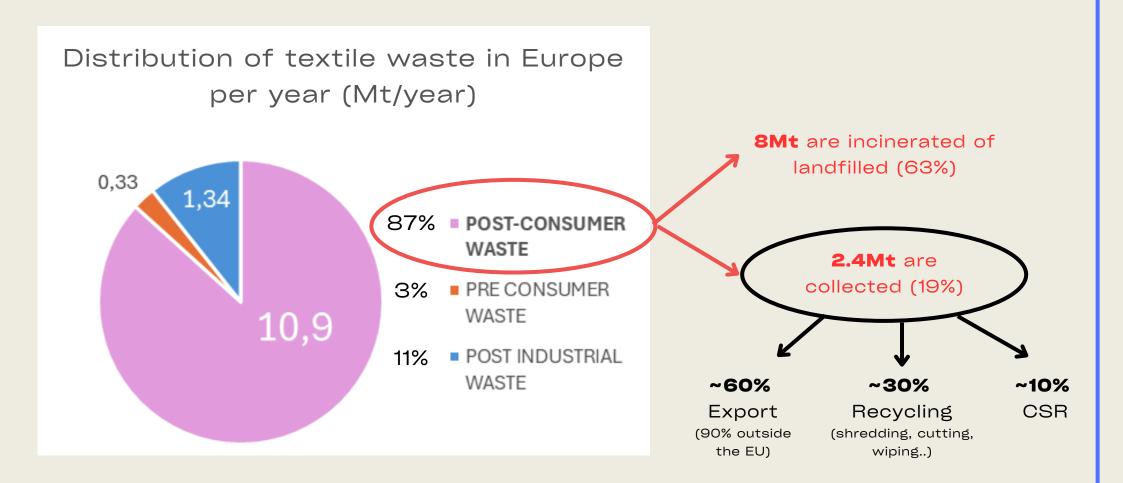
Study parameters:

- The **fiber recycler study** focused exclusively on cotton, polycotton and polyester fibers
- The latest research was updated in March and June 2025
- With regard to pre-processors, we have only listed those with annual capacities of at least 4,000 tonnes.



KEY FIGURES: TEXTILE WASTE IN EUROPE

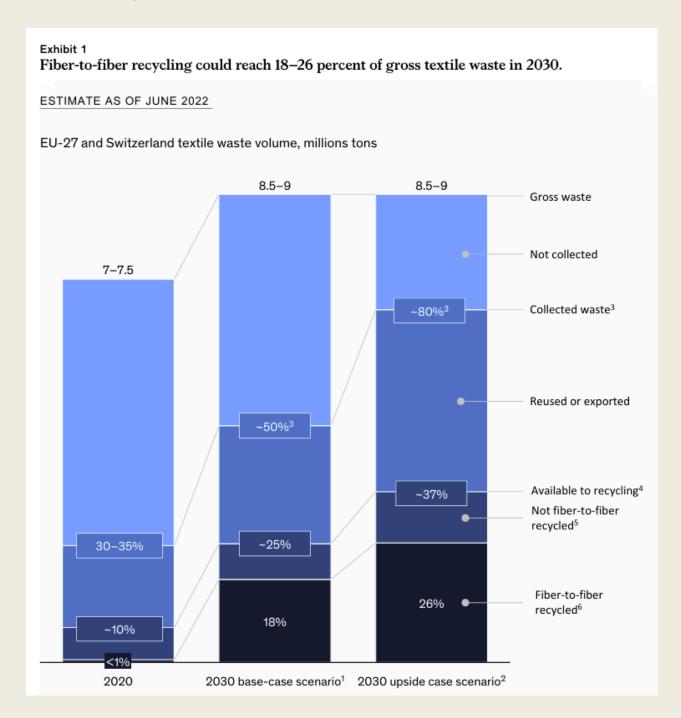
Europe generates 12.6Mt of textile waste per year*



Based on 2019 year reference* (JRC):

- Estimated sorting capacity in the EU: 1.8 Mt/y
- Estimated recycling capacity in the EU: 0.70-0.85 Mt/y
- Estimated recycling capacity in the EU in 2030/2035 : 1.5-2.0 Mt/y

McKinsey estimation**, scenarios for 2030:



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^{*}Techno-scientific assessment of the management options for used and waste textiles in the European Union, JRC, 2023

^{**}Scaling textile recycling in Europe-turning waste value, McKinsey & Company, 2022

RECYCLING INDUSTRY, HOW IT WORKS?

CONSUMER



Consumers or companies deposit their products in public and/or private bins, and the collection of these garments can be carried out by other actors and sources.

- Textile bins
- Product take back
- Donated garments
- Excess stock / unsold

COLLECTING, PRE-SORTING & SORTING



Collecting the post-consumer goods (garments and shoes) and sort manually or automatically them by quality, color, typology etc.

PRE-PROCESSING



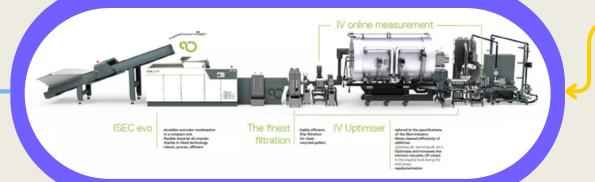
Any operation that prepares a material for recycling, including delissage, defibration, chipping, etc.

OUTPUTS

FIBER STAPLE

CELLULOSIC POWDER

YARN (OPEN END)

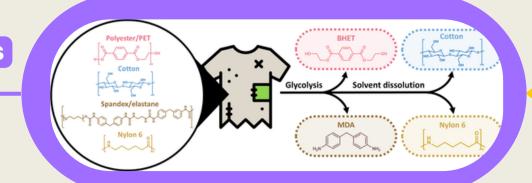


MECHANICAL RECYLING

Processes that transform textile waste into new materials while preserving the fibers' chemical structure involve sorting, shredding, and reprocessing the waste into fibers suitable for new yarns or non-woven applications.

OUTPUTS

FIBER TO FIBER



CHEMICAL RECYLING

Processes that break down textile waste into its basic chemical building blocks (monomers or oligomers) or into other valuable chemicals. These building blocks can then be used to create new virgin-quality materials, including new textiles

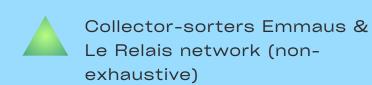
MAPPING OF EU COLLECTORS-SORTERS TO 2030





MAPPING OF EU SORTING COLLECTORS TO 2030

ESTIMATED TOTAL CAPACITY = AROUND 620 000 TONS/YEAR





Collectors-sorters + preprocessors

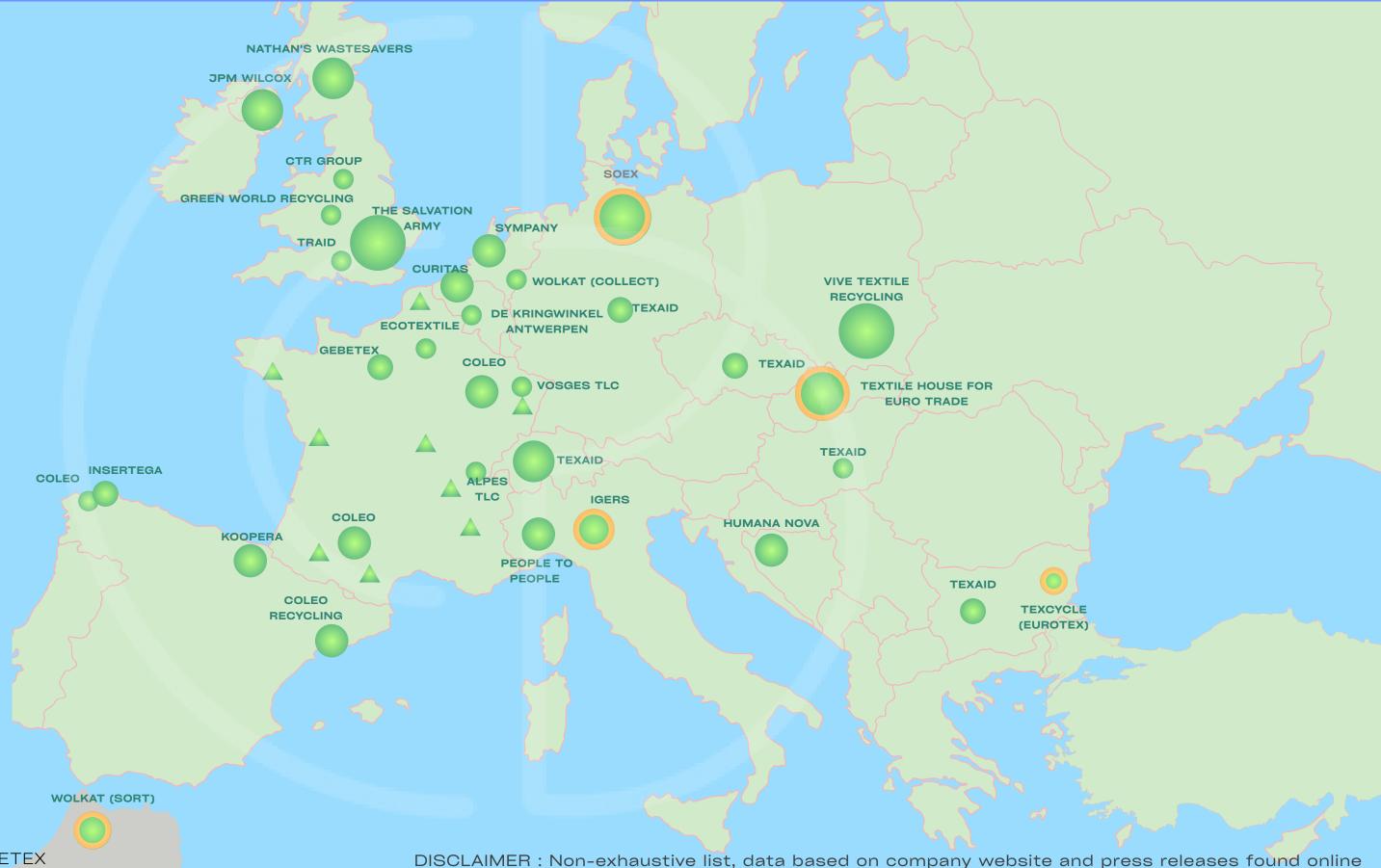
ANNUAL CAPACITY

[50 000; 100 000 t]

[25 000; 50 000 t]

[5 000; 25 000 t]

< 5000 t



DISCLAIMER: Non-exhaustive list of collectors/sorters, data based on company website and press releases found online

Collectors / Sorters	Collection area	Structure	Sourcing	Current annual capacity (Tons/year)	Type of sorting
Emmaus / Le Relais	France	SSE*	Public bins (+ de 20 000 box), donations, door-to- door collection	·	
Curitas	Belgium	SSE	Public bins, donations	10 000	Automated and manual sorting (Group Boer member, provides Frankenhuis)
Insertega	Spain	SSE	Unknown	Unknown	Pellenc ST
Koopera	Spain	SSE	700 collection points	6 000	Automated sorting (Fibersort)
Soex Group	Italy, Spain	Private	Public bins, donations, municipal bins	100 000	Automated sorting
Gebetex	France	Private	Public and private bins	4 000	Manual sorting
Texaid	Europe	Private	Municipal bins, shop collection	40 000	Manual sorting
VIVE Textile recycling	Poland	Private	Unknown	60 000	Manual sorting
Textile House	Europe	Private	Unknown	20 000 Target to 60 000 in 2030	Manual sorting
Nathan's Wastesavers	Scotland	Private	Municipal and public bins, charity shop	30 000	Manual sorting
JMP Wilcox	UK	Private	Municipal and public bins, charity shop	45 000	Manual sorting
Coleo	Spain (France soon)	Private	Public bins, donations, charity shop	20 000	Automated sorting (Picvisa)
Sympany	Netherlands	NGO	Public bins, municipal bins	23 000	Manual sorting
Humana People to People	Italy, Spain	NGO	Public bins, donations, municipal bins	18 000	Manual sorting
The Salvation Army	United Kingdom	Charity-owned company	Public bins, donations, charity shop	67 000	Automated sorting Fibersort (VALVAN)

^{*}Companies on standby and/or closing down

^{*}SSE: Social and solidarity economy (Economie sociale et solidaire)

MAPPING OF EU PRE-PROCESSORS TO 2030



MAPPING OF EU PRE-PROCESSORS TO 2030

ESTIMATED TOTAL CAPACITY
= AROUND 230 000 TONS/YEAR

*COMPANIES ON STANDBY
AND/OR CLOSING DOWN





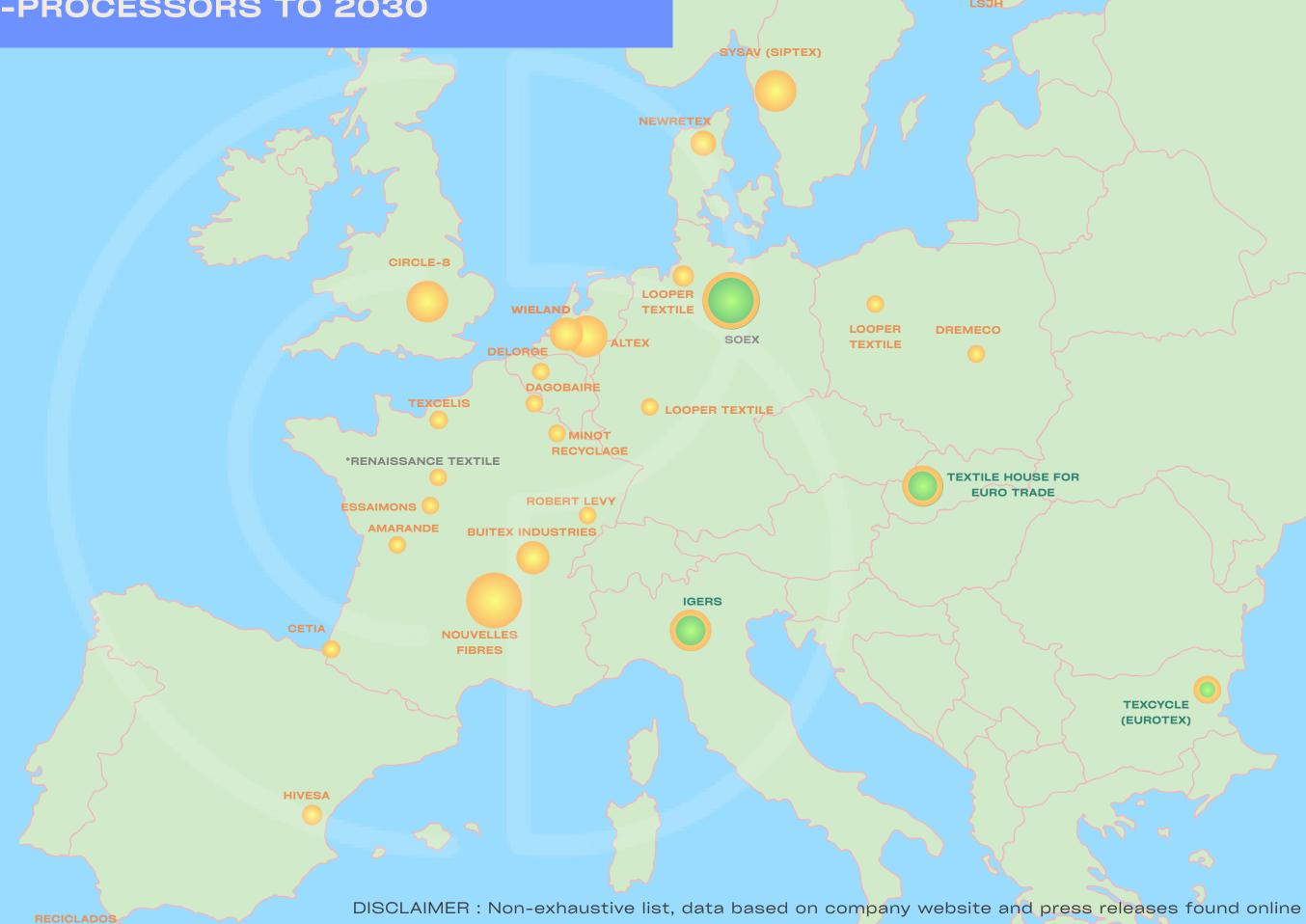
ANNUAL CAPACITY

[50 000; 100 000 t]

[25 000; 50 000 t]

[5 000; 25 000 t]

< 5000 t



DISCLAIMER: Non-exhaustive list of preprocessors, data based on company website and press releases found online

Entity name	Country, city	Current annual capacity (Tons/year)	Manual sorting	Automatic sorting (composition & colors)	Manual de- trimming	Automated de-trimming	Fraying/ shredding	Comments / Type of finished products
Altex Textile Recycling	Allemagne, Gronau (Westfalen)	30 000	1	/	1	/	yes	Ready-to-recycle fibers ; Non-wovens, building insulation (10 000t/y)
Buitex	France, Cours La Ville	5 000	/	/	/	/	ANDRITZ	Non-wovens, building insulation
Texcelis	France, Hermival-les- Vaux	Unknown	/	/	/	/	yes	Ready-to-recycle fibers ; Non-woven, felt
Essaimons	France, Châtellerault	12 000	/	Ecosort (PICVISA)	yes	/	1	Sorted and prepared textiles ; Subsidiary of PLAXTIL
Circle-8	UK	25 000 Plan for 2030	/	NEWRETEX	1	yes ?	yes?	Ready-to-recycle fibers ; Partner in the ACT UK project
Nouvelle Fibres Textiles	France, Amplepuis	100 000 Plan for 2030		PELLENC	/	ANDRITZ	/	Ready-to-recycle fibers
Amarande	France, Lussac-Les- Chateaux	Unknown	/	/	1	/	yes	Non-wovens, insulation
Delorge (Textile recycling)	Belgium, Wevelgem	Unknown	/	/	/	/	yes	Ready-to-recycle fibers
Dagobaire	France, Toufflers	4 500	With MATOHA hand-held sensors	/	/	/	yes	Ready-to-recycle fibers
Wieland Textiles	Netherlands	9 000	yes	Fibersort (VALVAN)	/	/	/	Sorted textiles
Looper Textile	Germany	8 t/day	yes, NIR sensors (company-owned technology)		/	/	/	Sorted textiles
Sysav (Siptex)	Sweden, Malmö	24 000	/	TOMRA	/	/	/	Sorted textiles
Igers	Italy, Novare	25 000	/	TOMRA	/	DELL'ORCO	/	Ready-to-recycle fibers
Dremeco	Poland, Varsovi	Unknown	/	/	/	1	DELL'ORCO	Non-wovens, insulation
Texcycle	Bulgaria, Varna	Unknown	/	/	/	/	yes?	Subsidiary of Eurotex
Reciclados Tanger	Maroco, Tanger	1.5 t/day	yes?	/	/	1	MARGASA	Ready-to-recycle fibers
LSJH	Finlande, Turku	Unknown	yes?	/	/	/	yes	Ready-to-recycle fibers
CETIA	France, Hendaye	demonstrator (200kg/h)	/	Fibersort (VALVAN)	/	Cleaning Willow (DELL'ORCO)	/	Ready-to-recycle fibers

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MAPPING OF EU COLLECTORS & PRE-PROCESSORS TO 2030



ESTIMATED TOTAL CAPACITY = AROUND 850 000 TONS/YEAR

*COMPANIES ON STANDBY AND/OR CLOSING DOWN



Collector-sorters Emmaus & Le Relais network (nonexhaustive)







ANNUAL CAPACITY



[25 000; 50 000 t]

[5 000; 25 000 t]

< 5000 t



MAPPING OF CHEMICAL RECYCLERS TO 2030





MAPPING OF CHEMICAL RECYCLERS TO 2030

ESTIMATED TOTAL CAPACITY = AROUND 475 000 TONS/YEAR

What proportion will be allowed for post-consumer textiles?

FIBER INPUT



Cotton



Polyester



Polycotton

ANNUAL CAPACITY (Tons/year)



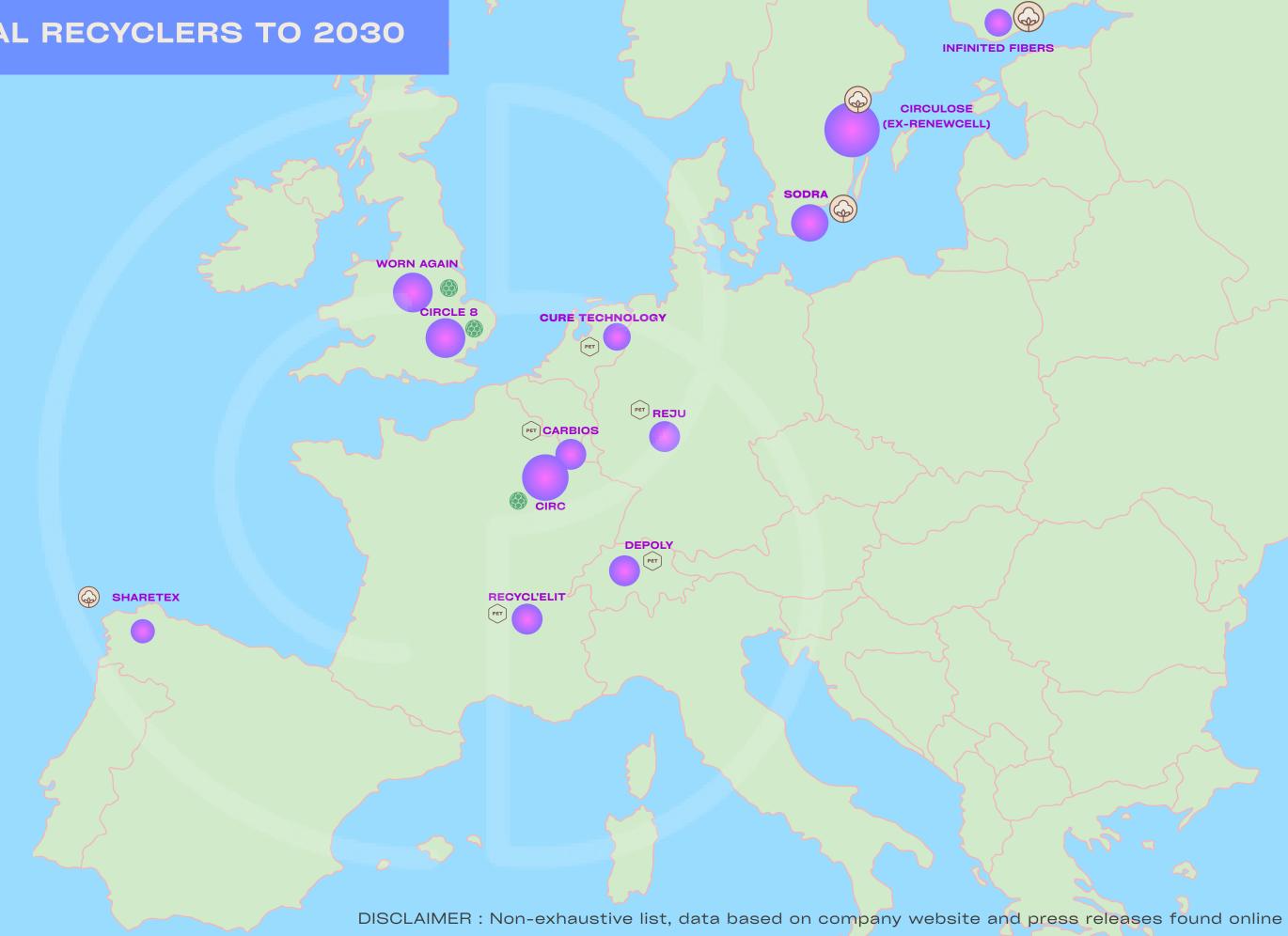
100 000



[50 000 - 70 000]

[25 000 - 30 000]

< 5 000



DISCLAIMER: Non-exhaustive list of chemical recyclers, data based on company website and press releases found online

Entity name	Country, city	Input	Process	Current capacity	Annual capacity by 2030 (Tons/year)
CARBIOS	France, Longlaville	PET	Depolymerization by enzymatic hydrolysis	1000 t/y Pilot scale, in Clermont-Ferrand	25 000 Longlaville plant under construction (total capacity : 50 000 t/y)
CuRe Technology	Netherlands, Emmen	PET	Depolymerization by glycolysis	20 kg/h Pilot scale	25 000 Total capacity : Textile proportion ?
REJU	Pays-Bas, Chemelot Industrial Park	PET	Selective depolymerization of PET	Demonstrator plant in Frankfurt	50 000 Netherlands plant under construction
RECYCLELIT	France, Vénisseux	PET mixed	Selective depolymerization of PET	100 kg/month Pilot scale	Unknown
DePoly	Switzerland, Monthey	PET	Depolymerization	500 t/y Pilot scale	25 000 Total capacity : Textile proportion ?
CIRC	France, Saint-Avold	Polycoton	Depolymerization by hydrolysis	Pilot scale in the USA	70 000 Annoucement : plant in Saint-Avold in 2028
CIRCLE-8	United Kingdom	Polycotton	Utilizes a Worn Again license	In development	50 000
WORN AGAIN	UK, Nottingham (and Switzerland)	Polycoton	Solvent-based dissolution	1 000 t/y	50 000 Target to have 40 plants operating 50k t/y Pilot scale(2028). Total capacity : Textile proportion ?
CIRCULOSE (EX-RENEWCELL)	Sweden, Stockholm	Coton	Pulping process (dissolution)	60 000 t/y	100 000
INFINITED FIBERS	Finland, Espoo	Coton	Pulping process (dissolution)	operational plant scheduled for 2026	30 000
SODRA (with Lenzing)	Sweden, Morrum	Coton	Solvent-based dissolution	Demonstrator plant	50 000
ShareTex	Sweden, Spain	Coton	Pulping process (dissolution)	Partner with ENCE (pulp cellulose) to built industrial unit pilote at As Pontes.	Unknown

Output : fiber-to-fiber

MAPPING OF MECHANICAL RECYCLERS TO 2030

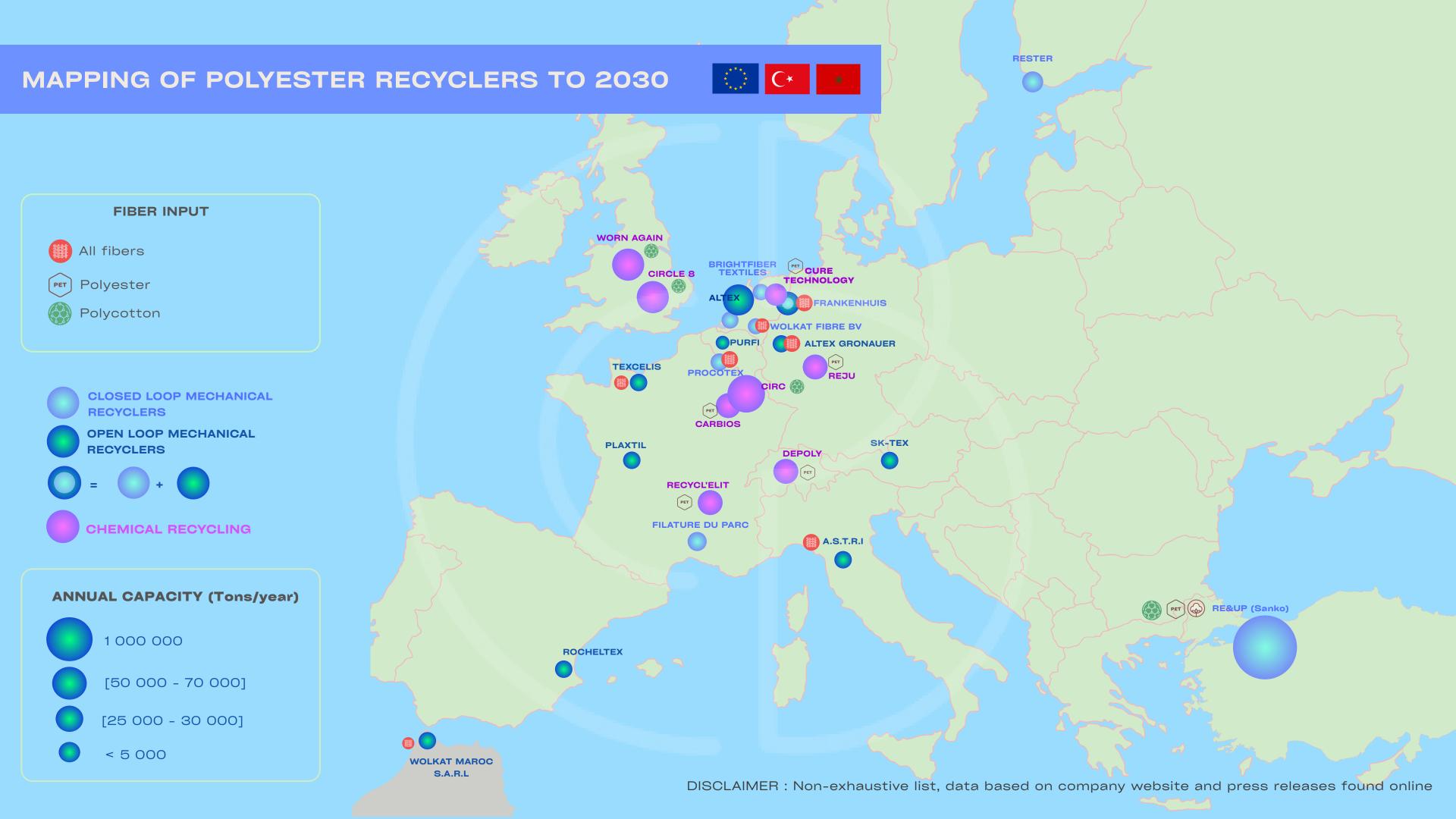


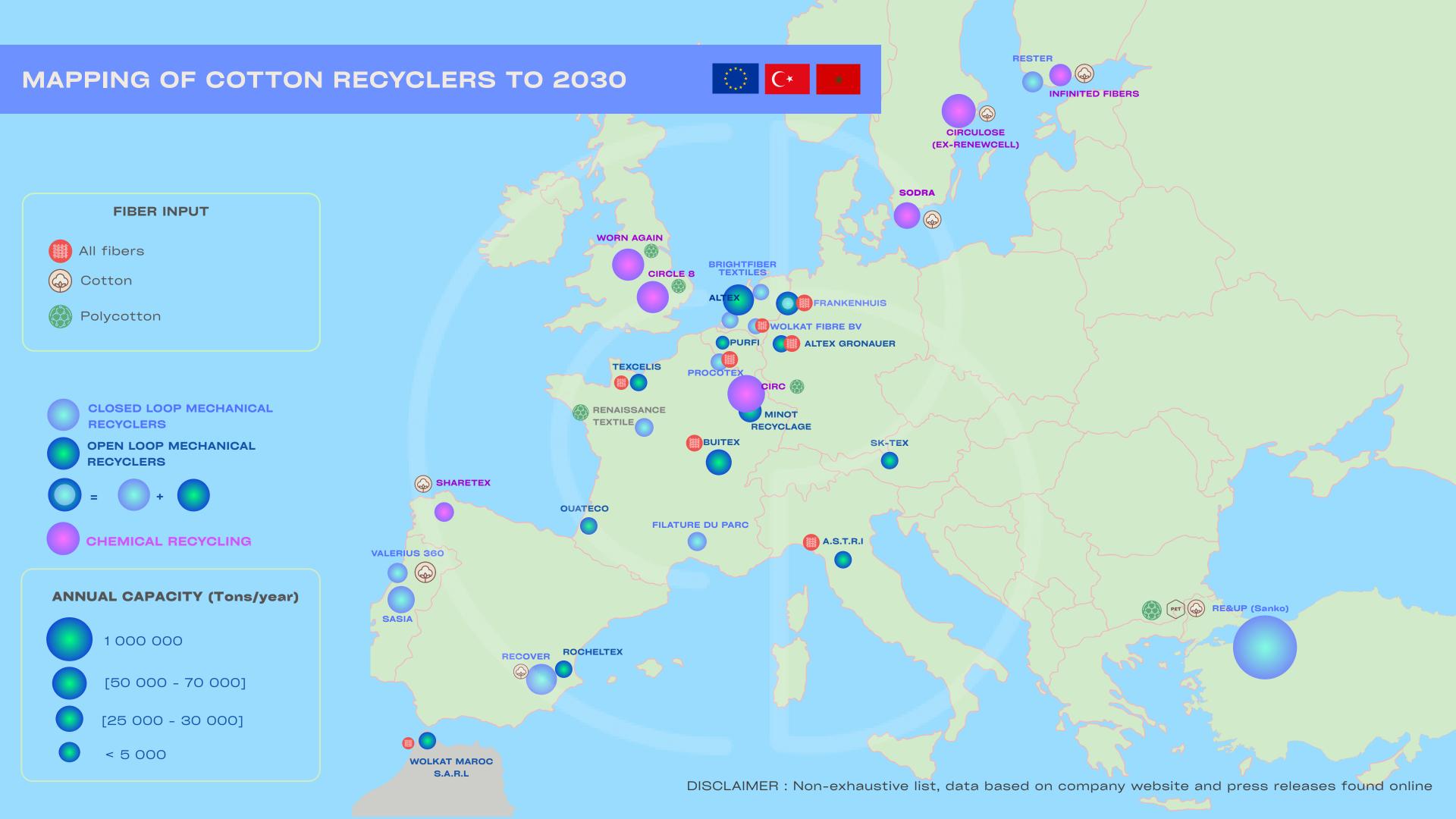


Electific regions	Country eity	Organitation of the second of		Dysocoo and consinue of if known		
Entity name	Country, city	Current capacity	Input	Process and equipment if known		
Filature du Parc	France, Brassac	500 t/y	Natural fibers	Defibering, spinning		
Procotex	Europe, Belgium	25 000 t/y	All fibers	Cutting/Shredding,Fiberising		
Wolkat Recycling	Maroc, Tanger	Unknown	All fibers	Mechanical recycling		
Minot Recyclage (Groupe Le Relais)	France, Billy-Berclau	40 000 t/y	All fibers	Non-wovens, felt for the automotive industry, thermal and acoustic insulation ("Métisse" product)		
Brightfiber Textile	Netherlands	2 500 t/y Target to 3 000 t/y in 2030	All fibers	NIR sorting, Fiberising		
Frankenhuis B.V.	Netherlands, Almelo	8 000 t/y Target to 20 000 t/y in 2030	Cotton, cotton blends	Tearing lines, Fiberising, Grinding, FFIBR spinnable recycled fibers		
Recover™	Spain / Vietnam	65 000 t/y	Cotton, cotton blends	Cutting/Shredding,Fiberising, Blending,Fiberising,Fibre Production,Opening,Recycling,Shredding,Tearing		
Valerius 360	Portugal	2 160 t/y	White Cotton	Cutting, shredding, spinning They invest on chemical recycling too		
Ouateco	France, St geours de Marenne	10 000 t/y	Cotton, rich cotton	Dellorco Y Villani Line		
Sasia	Portugal, Ribeirão	10 000 t/y	Cotton, natural fibers	Andritz Laroche line		
RE&UP (Sanko)	Turkey	80 000 T > Target to 1 000 000 t/y in 2030	Cotton, polyester and polycotton	Mechanical recycling, ANDRITZ lines		
Renaissance Textile	France	3 000 T	Polycotton	Delamination, defibering		
Rester Oy	Europe / Finland	6 000 t/y Target to 10 000 t/y in 2030	Cotton, polyester and polycotton	Cutting, Shredding, Blending,		
Altex	Deutchland	10 000 t/y	Cotton, polyester and polycotton	Cutting, shredding,Blenders (Trützschler, Temafa), Separation (Höcker Polytechnik)		
Purfi	Belgium	3 000 t/y Target to 25 000 t/y in 2030	Cotton, polyester and polycotton	"Soft mechanical" technology, patent		

MAPPING OF RECYCLERS BY NATURE OF FIBER TO 2030

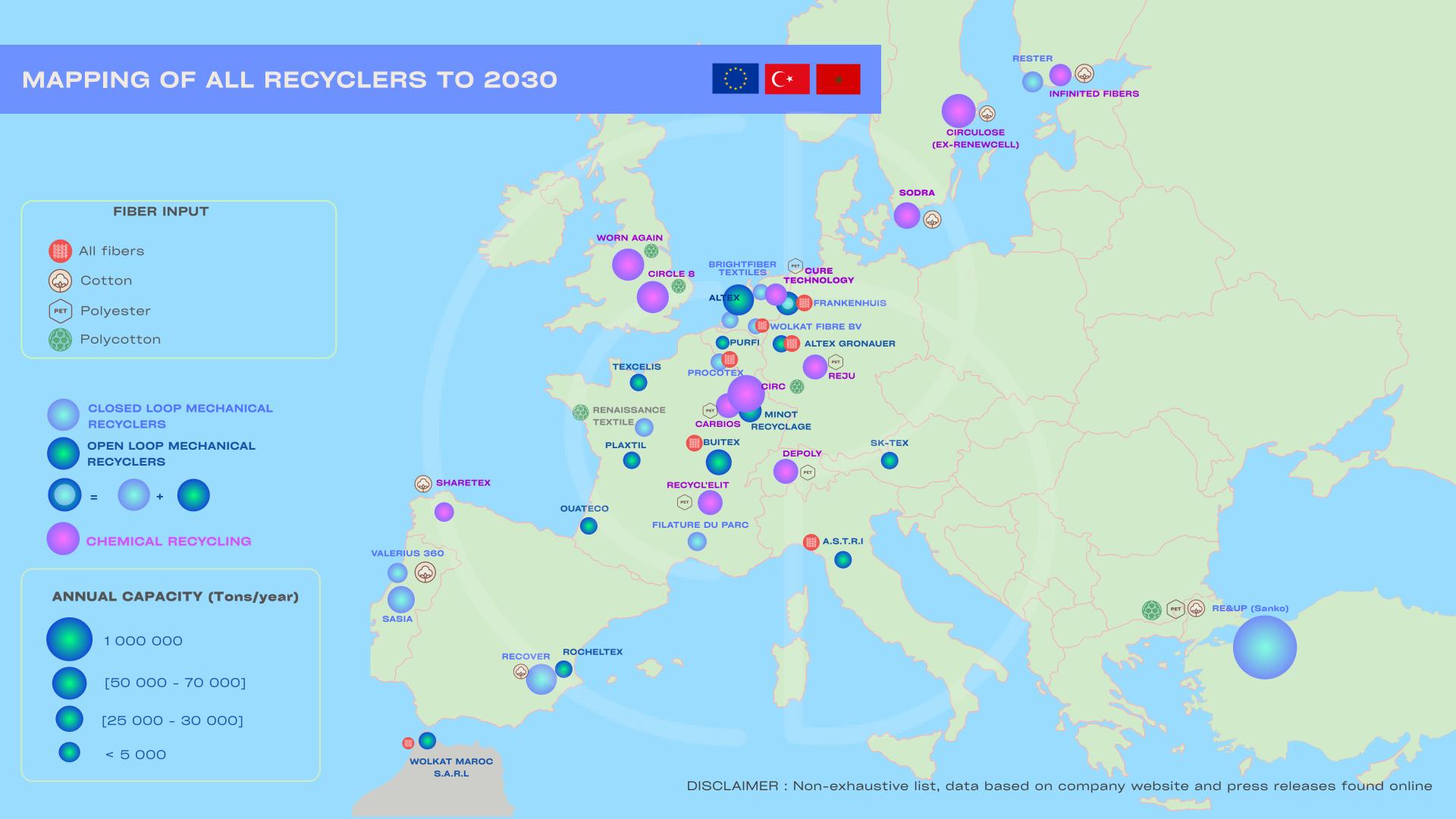


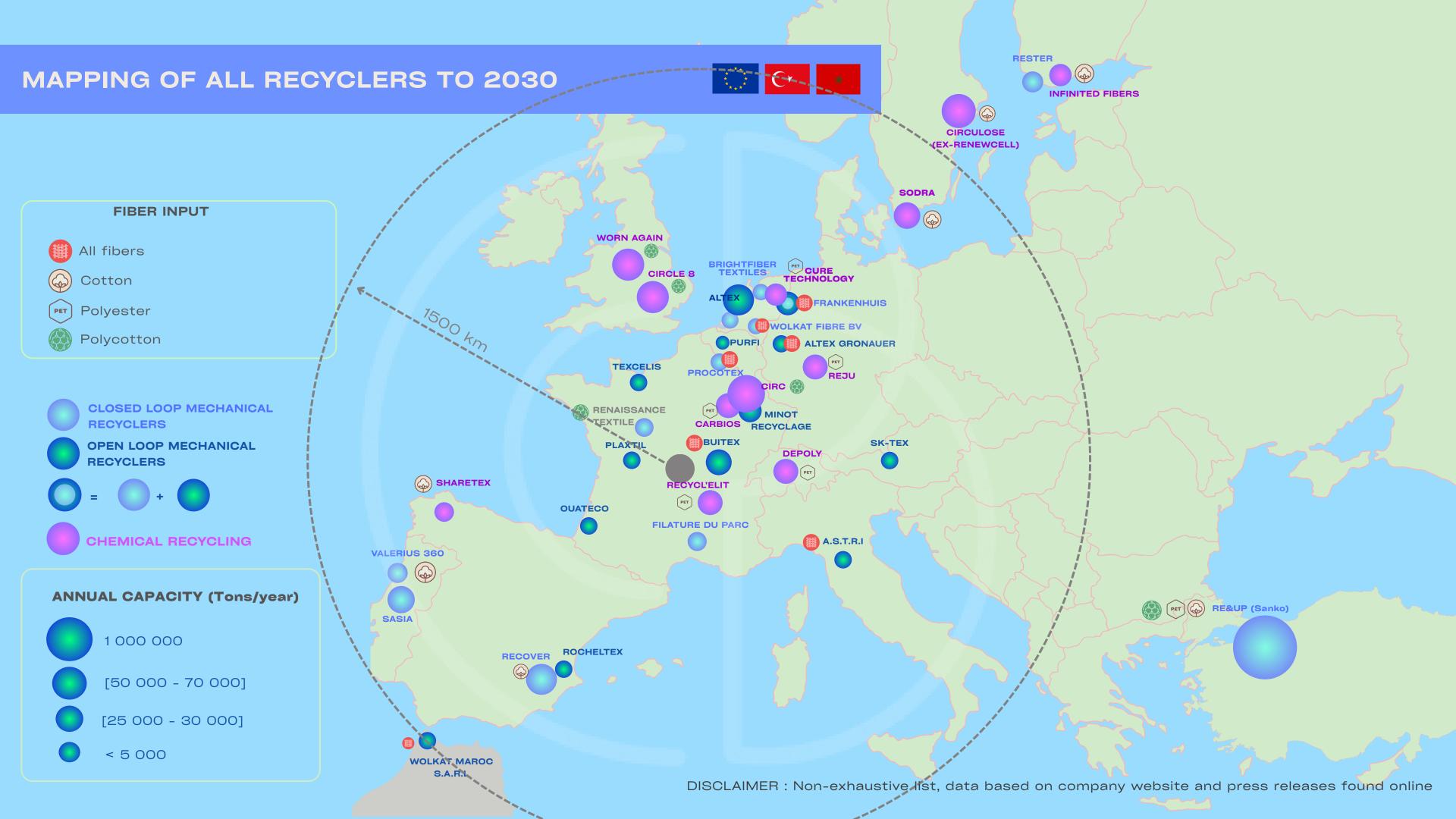




MAPPING OF ALL RECYCLERS TO 2030







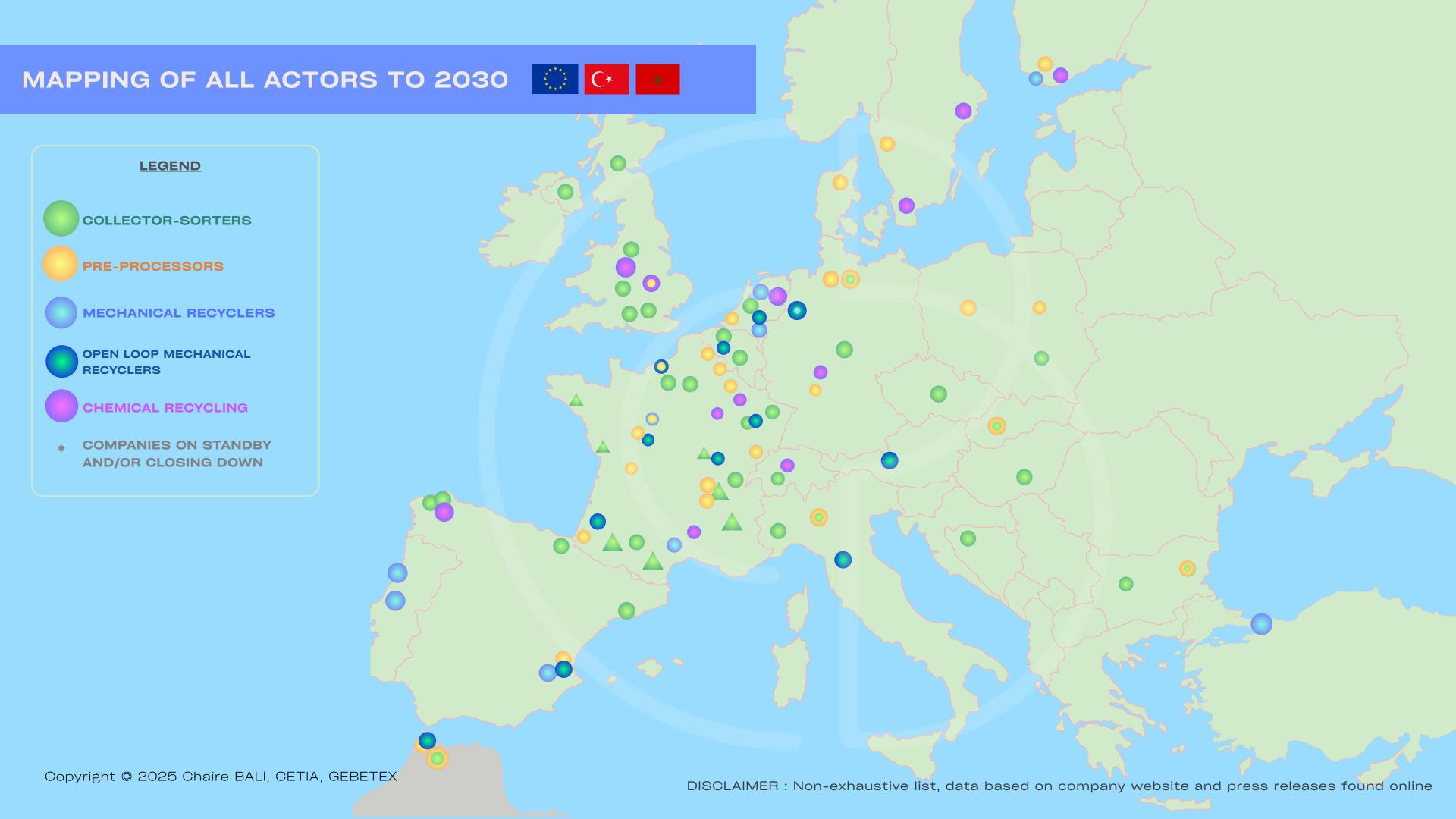
MAPPING OF ALL RECYCLING INDUSTRY ACTORS TO 2030



LEGEND

- **COLLECTOR-SORTERS**
- **PRE-PROCESSORS**
- MECHANICAL RECYCLERS
- **OPEN LOOP MECHANICAL RECYCLERS**
- HEMICAL RECYCLING
- **COMPANIES ON STANDBY AND/OR CLOSING DOWN**





CONCLUSION



CONCLUSION: CAPACITY ESTIMATION

Reminder:

Based on 2019 year reference* (JRC):

- Estimated sorting capacity in the EU: 1.8 Mt/y
- Estimated recycling capacity in the EU: 0.70-0.85 Mt/y
- Estimated recycling capacity in the EU in 2030/2035 : 1.5-2.0 Mt/y

Mapping results:

Curre	nt capacity	Capacity to 2030		
Collectors and pre-processors	Recyclers	Collectors and pre- processors	Recyclers	
Around 0.7 Mt/y	Around 0.3 Mt/y	Around 0.9 Mt/y	Around 1.7 Mt/y*	
Please note that the list of players identified in this mapping is not exhaustive, hence the difference between current capacities and those estimated in certain studies.	Some open-loop mechanical recyclers may have been counted as preprocessors, as it was sometimes difficult to decide on this limit, for example shredding and the manufacture of insulating or padding products		It should also be noted that it is difficult to say today whether the recyclers who have announced the opening of factories and operational sites with certain quantities in 2030 will necessarily be ready to process all types of textile waste, since work is needed upstream to ensure that textile waste, particularly post-consumer waste, can be processed as a whole. *with 1 million announced by Re&up	

The mapping shows that to achieve the collection, sorting, preparation and recycling targets, the sector needs to develop and invest in technological and innovative solutions.

^{*}Techno-scientific assessment of the management options for used and waste textiles in the European Union, JRC, 2023



YOU OPERATE IN THE TEXTILE RECYCLING SECTOR AND YOUR COMPANY IS NOT ON THE MAP?



LET US KNOW VIA THIS PARTICIPATIVE REGISTRATION LINK!



NEXT STEPS:

- UPDATE MAPPINGS ACCORDING TO FEEDBACK RECEIVED
- SEPARATE COLLECTING CAPACITY AND SORTING CAPACITY

CONTACT

BUSINESS MANAGER Valentina JACQUIER-NARDI v.nardi@estia.fr

R&D ENGINEER Roxane COUFFITTE roxane.couffitte@estia.fr

BUSINESS ASSISTANT MANAGER Theo LALANNE theo.lalanne@estia.fr















